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CLAIM REJECTIONS UNDER 35 U.S.C. 103

Claims 12-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rase et al (U.S. 5,169,631) in view of Model et al (U.S. 3,800,048).

In response to the above rejection, Applicants respectfully submit that the Examiner has not made out a case of prima facie obviousness of the claimed invention as required by law. The requirements for a case of prima facie obviousness are summarized in M.P.E.P. 2143.03 which states that to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.

Applicants' case for the lack of a prima facie case of obviousness is based upon the failure of the prior art to teach or suggest the nanoparticles of the instant claims. More specifically, the microcapsules taught by Rase are different from the nanoparticles claimed by the Applicants. The microcapsules taught by Rase contain an antimicrobial agent enclosed within an outer wall which is constituted of cross-linked collagen and glycosaminoglycan. The nanoparticles of the instant claims are antimicrobial agents in particulate form wherein a surface modifier is absorbed onto the surface of the antimicrobial agent (see page 5, lines 9-11 of the specification). These antimicrobial agents are themselves nanoscale particles as opposed to the particles taught by Rase which are microcapsules having walls which are made of cross-linked collagen and glycosaminoglycan and which contain antimicrobial particles (see column 1, lines 60-61 of Rase).

Rase also does not suggest Applicants' antimicrobial particles. This is clear from the emphasis Rase places upon the composition and function of the outer wall of the microcapsule. For example "The wall of the microcapsules is constituted essentially of collagen, and more particularly atelocollagen, and of a natural glycosaminoglycan, such as chondroitin sulfates, mucopolysaccharides extracted from the nasal septum of the sheep, dermatan sulfates or heparan sulfate.". (see column 1, line 68 to column 2, line 2). Also, column 1 at lines 4752 there is the teaching that: "The microcapsules according to the invention release their active ingredient essentially in the presence

of the microorganisms of the skin which is has [sic] to control. In fact, the wall of the microcapsules is altered by the action of the proteolytic enzymes secreted by the skin flora." (emphasis added). All of the teaching and suggestion in Rase is directed toward an encapsulated antimicrobial agent contained in a capsule composed of cross-linked polymer (collagen and glycosaminoglycan). There is no teaching or suggestion in Rase that would lead one of ordinary skill in the art to antimicrobial agents that are themselves nanoparticles as claimed in claims 12-32.

Model does not cure the deficiencies of the teachings of Rase. Model merely discloses an agent useful in bactericidal compositions and that said agents control the growth of gram positive bacteria.

Since the prior art references alone or in combination do not teach or suggest all the limitations in the rejected claims, a prima facie case of unpatentability under 35 U.S.C. § 103(a) has not been made out by the Examiner. Consequently, the Applicants are under no obligation to submit evidence of nonobviousness. As set forth in M.P.E.P. 2142, "The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.".

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It is believed that the foregoing reply is completely responsive under 37 CFR 1.111 and that all grounds of rejection and objection have been completely overcome or obviated. It is believed that claims 12-32 are in condition for allowance and a notice of allowance is respectfully requested.

Respectfully submitted,

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